CONGRATULATIONS

ON

PURCHASING

SMSEAGLE!

SMSEAGLE

USER'S MANUAL

Document version: 2.5

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CONTENTS

1. GET READY TO START 4

What's in The BOX 5

Prepare for first start 6

2. USING OF SMSEAGLE 11

Get to know with Connectors, Ports and LEDs 12

Basic Operations 13

SMSEagle features 13

Connecting directly to SMSEagle database 15

SNMP agent 15

3. TROUBLESHOOTING 19

Verification of LEDs 20

Checking the device logs 20

When the device is not reachable 20

Restoring factory defaults 21

4. SERVICE AND REPAIR 22

Warranty 23

Service 23

5. TECH SPECS AND SAFETY INFORMATION 24

Technical Specifications 25

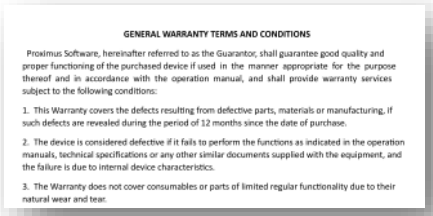
Important Safety Information 27

1. GET READY TO START

What's in The BOX

Your SMSEagle box contains:

- SMSEagle hardware sms gateway
- External omnidirectional 3.5dBi GSM antenna (with magnetic foot)
- AC/DC power supply (input voltage: 100-240V)
- Warranty card



GENERAL WARRANTY TERMS AND CONDITIONS

Proximus Software, hereinafter referred to as the Guarantor, shall guarantee good quality and proper functioning of the purchased device if used in the manner appropriate for the purpose thereof and in accordance with the operation manual, and shall provide warranty services subject to the following conditions:

1. This Warranty covers the defects resulting from defective parts, materials or manufacturing, if such defects are revealed during the period of 12 months since the date of purchase.

2. The device is considered defective if it fails to perform the functions as indicated in the operation manuals, technical specifications or any other similar documents supplied with the equipment, and the failure is due to internal device characteristics.

3. The Warranty does not cover consumables or parts of limited regular functionality due to their natural wear and tear.

Prepare for first start

Your SMSEagle is designed so that you can set it up quickly and start using it right away. Follow the steps below to get started.

Step 1: Connect GSM antenna

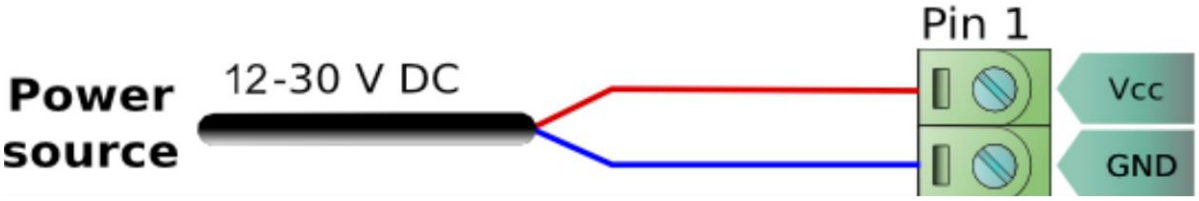
Plug in GSM antenna connector to the device.

Step 2: Insert SIM Card

Please install SIM Card when the device is SWITCHED OFF. SIM Card slot is located at the bottom of the device. Use a ball-pen or small screwdriver to eject SIM Card tray. Insert card into tray and push it gently into slot.

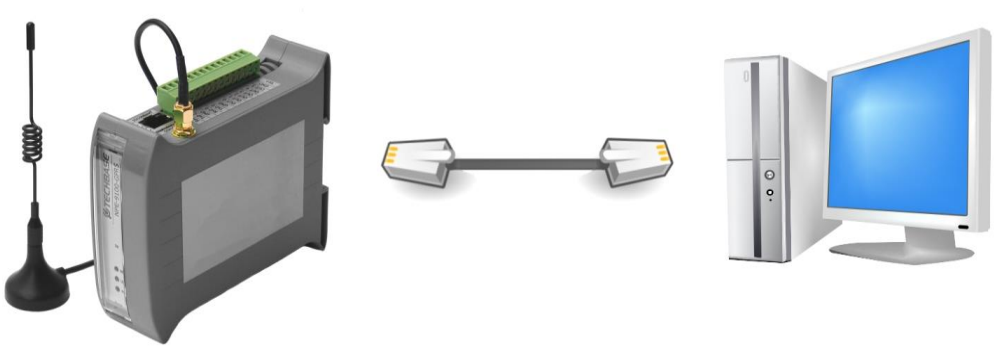
Step 3: Power the device

The device is powered with AC/DC power supply adaptor delivered in the box. The device needs a power source of 12V DC to 30V with 17W power.
In order to power the device simply plug in a connector from AC/DC adaptor into the device.



Step 4: Configure IP settings

Follow the steps below in order to the device first time using Ethernet – with initial factory settings on the device.



SMSEAGLE DEFAULT NETWORK CONFIGURATION

The following configuration is set on a device by default:

IP address: 192.168.0.101

Subnet Mask: 255.255.255.0

DHCP client: ON

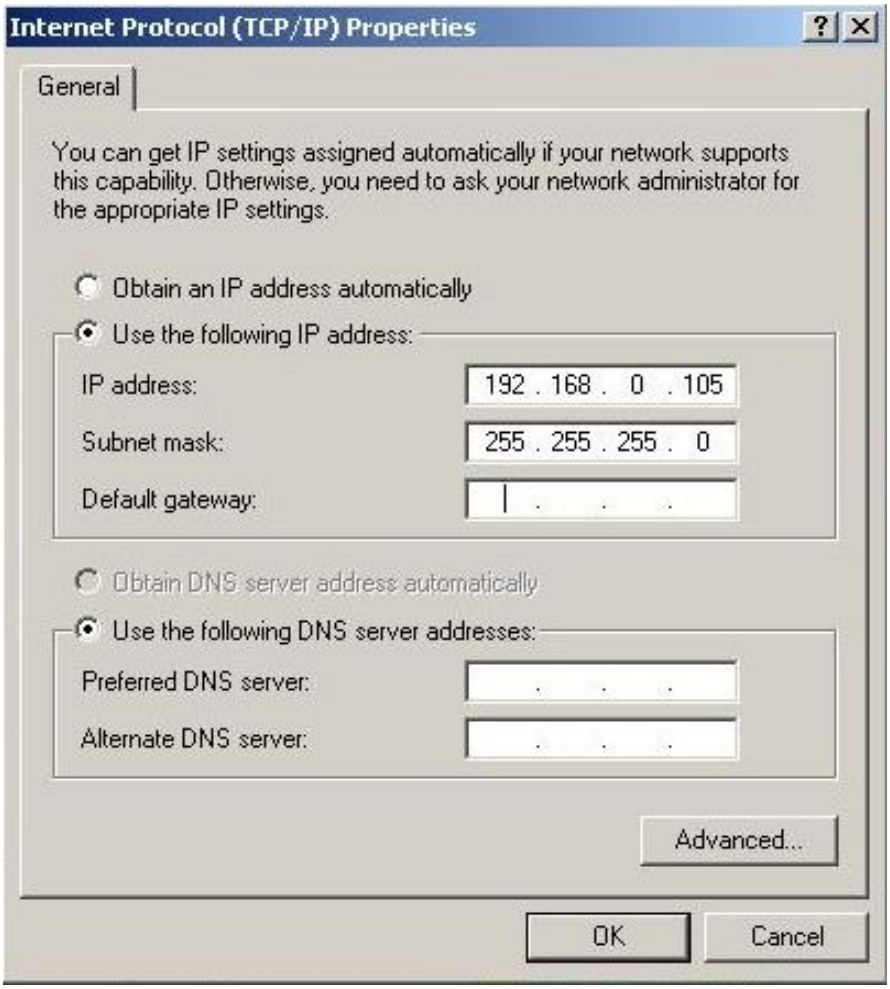
a) CONNECT TO A PC

The computer (PC) must be in the same network subnet as the device. Taking into account the factory settings of the device (listed above), a computer must have following IP configuration:

IP address: 192.168.0.X
Subnet Mask: 255.255.255.0
where X is any value between 1-244 excluding 101
Examples of valid IP addresses are: 192.168.0.1 and 192.168.0.102

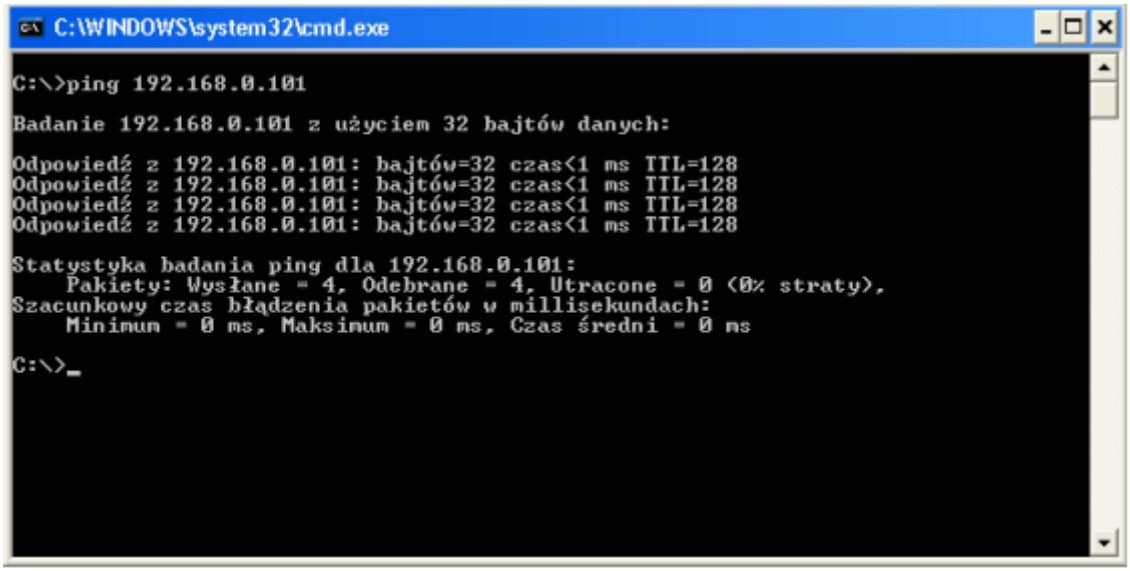
The current tutorial assumes you have factory settings on the device. If you do not know what current network settings are you can restore device to the factory settings (see the Troubleshooting chapter).

Example of computer IP configuration in Windows:


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 105
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

b) VERIFY YOUR CONNECTION

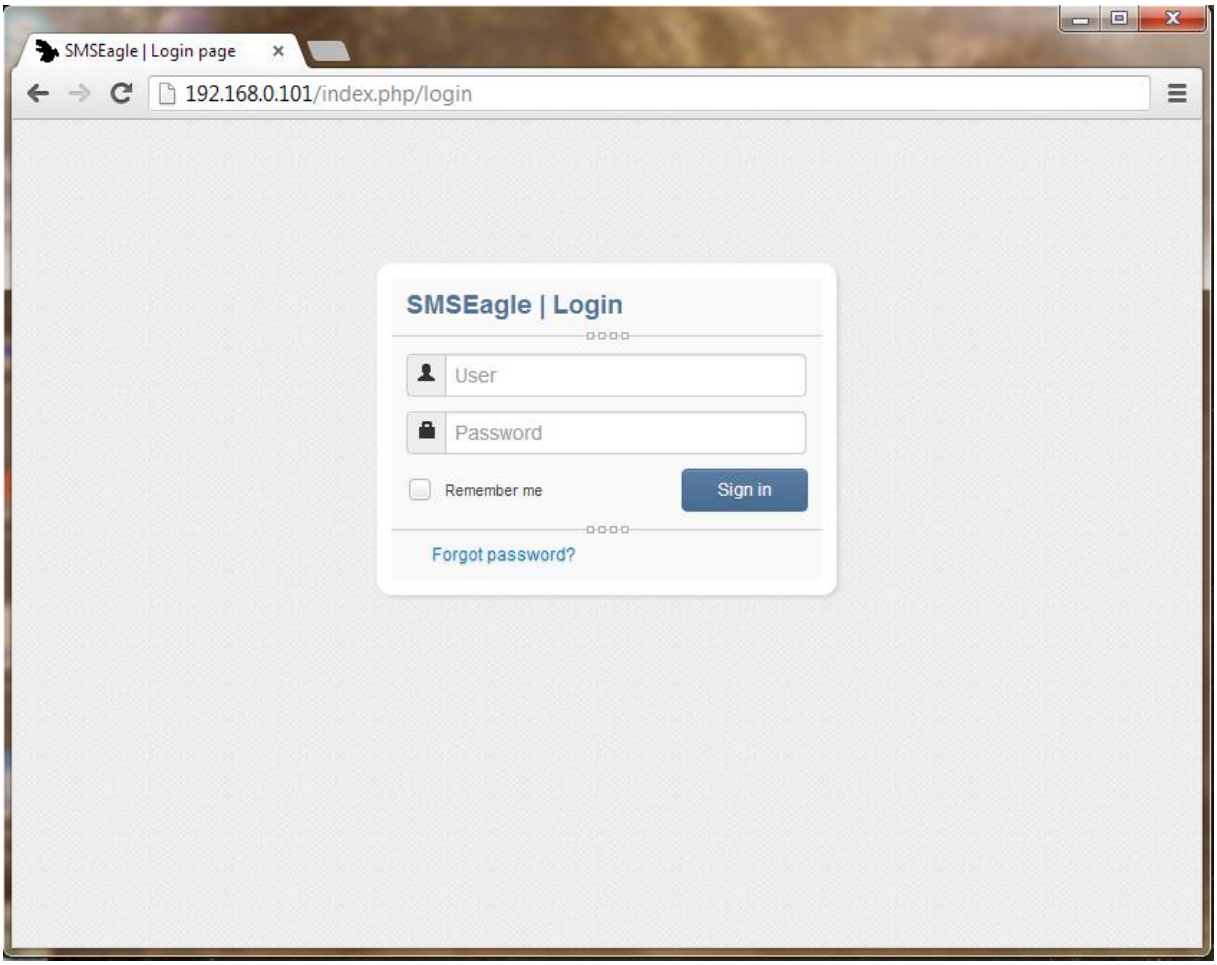
Properly connected device should respond to the ping command.


C:\WINDOWS\system32\cmd.exe
C:\>ping 192.168.0.101
Badanie 192.168.0.101 z użyciem 32 bajtów danych:
Odpowiedź z 192.168.0.101: bajtów=32 czas<1 ms TTL=128
Odpowiedź z 192.168.0.101: bajtów=32 czas<1 ms TTL=128
Odpowiedź z 192.168.0.101: bajtów=32 czas<1 ms TTL=128
Odpowiedź z 192.168.0.101: bajtów=32 czas<1 ms TTL=128
Statystyka badania ping dla 192.168.0.101:
Pakiety: Wysłane = 4, Odebrane = 4, Utracone = 0 (0% straty),
Szacunkowy czas błądzenia pakietów w milisekundach:
Minimum = 0 ms, Maksimum = 0 ms, Czas średni = 0 ms
C:\>

Example of ping after a proper connection to PC

c) LOG IN TO SMSEAGLE

Open an internet browser on your PC and go to the address: 192.168.0.101



SMSEAGLE DEFAULT USER IS:

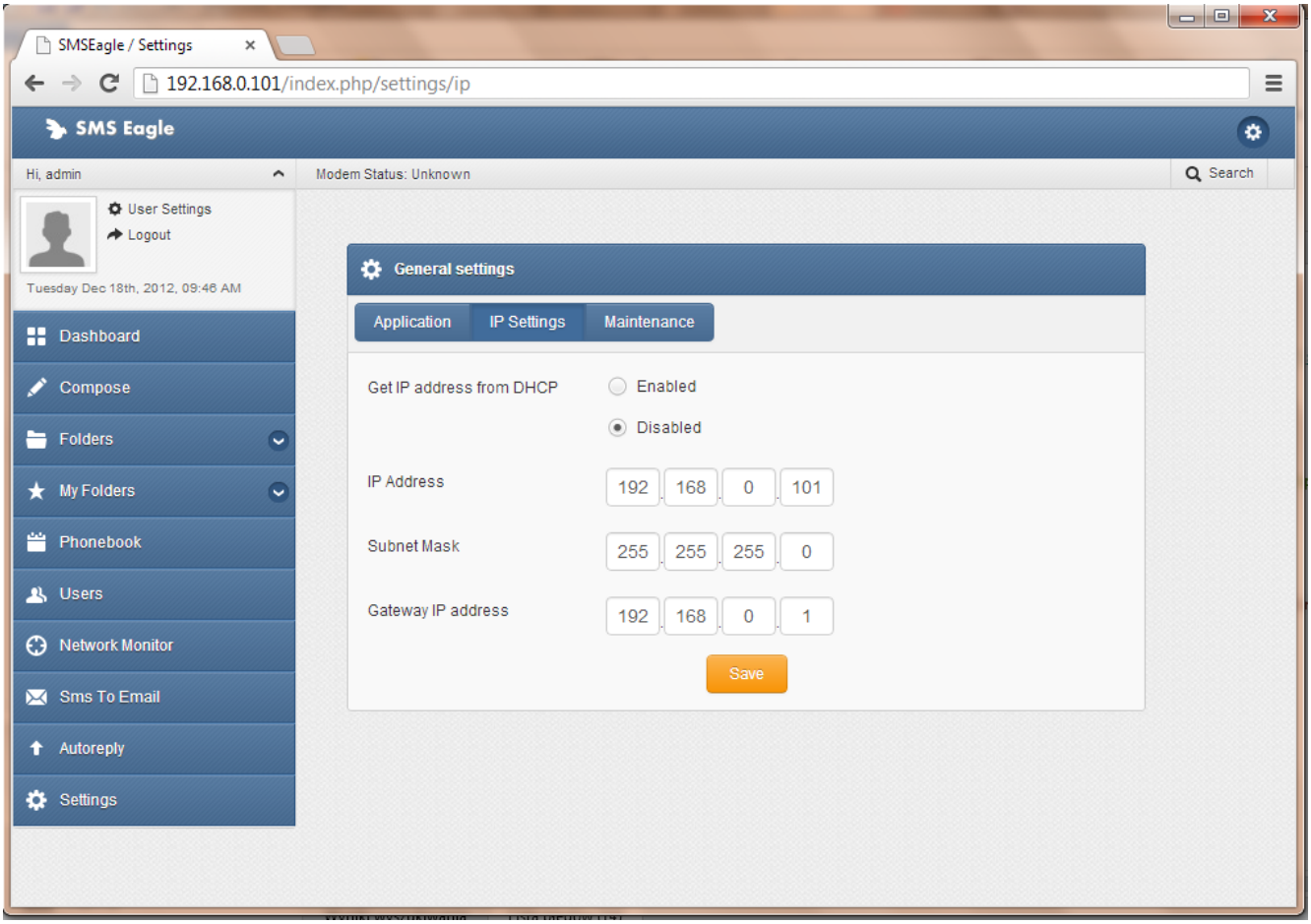
Username: admin

Password: password

Login to application with above username and password.

d) CONFIGURE IP SETTINGS

Click on menu position “Settings” and navigate to tab “IP Settings”.



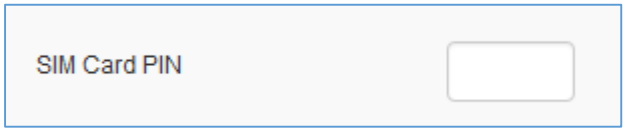
Enter your IP settings. If you have DHCP server on your network you can choose "Get IP address from DHCP" – IP settings will be obtained automatically.

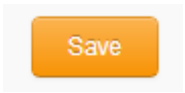
Press "Save" button.

e) SETTING SIM-CARD PIN NUMBER

This step should ONLY be done if your SIM-card requires PIN.

If your SIM-card requires PIN number at startup, go to Settings > Maintenance Tab. Enter your PIN number in the field "SIM Card PIN":



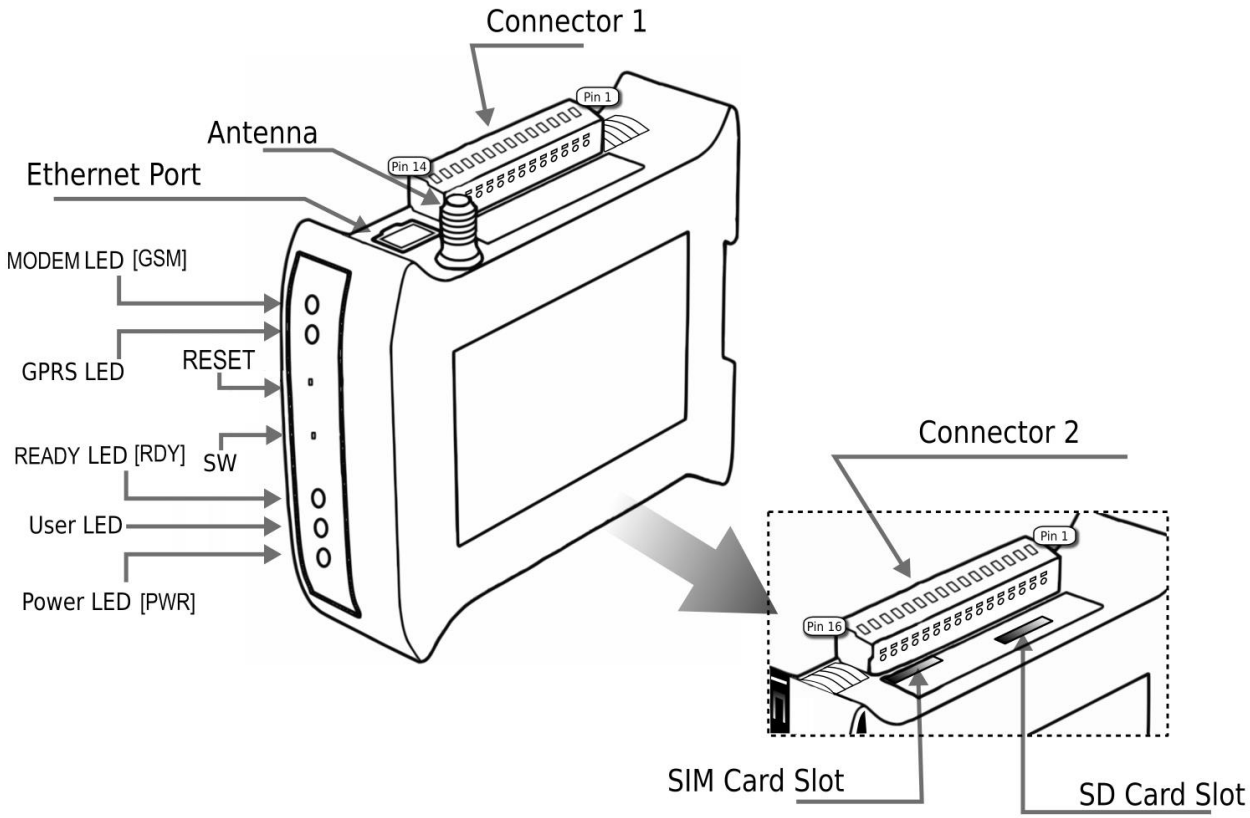
Press "Save" button. 

f) REBOOT THE DEVICE

Go to Settings > Maintenance Tab. Press **Reboot** button.

2. USING OF SMSEAGLE

Get to know with Connectors, Ports and LEDs



Element	Label	Description
Connector 1	C1	Power connector and serial ports
Connector 2	C2	Additional ports connector (not used)
SIM Card Slot	SIM	SIM card slot
SD Card Slot	SD	Slot for additional SD/MMC card
Ethernet Port	ETH	Ethernet RJ45 socket
Antenna	ANT	Antenna socket
Power LED	PWR	LED indicating power-on
User LED	USER	LED for user application purpose (not used)
Ready LED	RDY	LED indication device status
Reset	RST	Switch for rebooting the device
User Switch	SW	Switch for restoring to factory settings

Basic Operations

SMSEagle is capable to work in various screen resolutions, making it accessible for wide range of devices: computers, laptops, tablets, smartphones, etc.

Open a web browser on your device, type in SMSEagle's IP address (as set in previous chapter). At login screen type in your username/password. Default username and password is given in chapter First Start.

SMSEagle features

- Sending & Receiving SMS (managing messages with Inbox, Outbox, Sent Items)
- Sending to single users or groups of users
- SMS Scheduling by specified date and time or delay
- Smartphone-like conversation mode (messages are nicely grouped by phone number). You can easily track history of what you send and receive
- Message templates (save, edit your own templates)
- Contactbook (single users, groups)
- Multiuser support (each user has access to a private Inbox, Outbox, Sent Items)
- Powerful Network Monitoring service and SMS alerting
- Auto-reply to incoming SMS

- Email to SMS forwarding
- SMS to Email forwarding
- Forward incoming SMS to remote script
- Unicode support (support of national characters)
- HTTP API for sending and receiving SMS from external applications & systems
- SNMP client installed
- NTP client installed
- Hardware watchdog installed

Autoreply plugin

If the plugin is set to 'Active' SMSEagle responds to each received message with automatic fixed text response. Text response can be defined within plugin settings. If within last hour text response has been already sent to a given phone number, text response is not being sent again to that number.

Network Monitoring

SMSEagle is equipped with powerful (yet simple to use) network services monitoring features. With that features you can monitor any service that has listening port open. SMSEagle is trying to connect to each defined port in Network Monitoring feature and sends defined SMS alert when port is unavailable. Go to our website www.smseagle.eu for the details of this feature.

Email to SMS plugin

Email to SMS plugin allows you to convert an email to SMS message and send to the given telephone number. Go to our website www.smseagle.eu for the details of this feature.

SMS to Email plugin

SMS to Email plugin allows you to forward your SMS messages to email address. It forwards all the incoming messages to one email address. Plugin uses an external SMTP server for sending emails. Go to our website www.smseagle.eu for the details of this feature.

Callback URL plugin

Callback URL plugin allows you to forward incoming SMS message to a defined URL address. If the plugin is enabled, on each incoming sms message SMSEagle will trigger HTTP request to a defined URL. HTTP request can be of type GET or POST. Go to our website www.smseagle.eu for the details of this feature.

SMSEagle API

SMSEagle has a powerful built-in API functionalities. With API you can use the device to send and receive messages from any external system or application. For the detailed description of API functionality go to our internet site: www.smseagle.eu

External Software integration

SMSEagle has a number of ready-to-use plugins for integration with external software (monitoring systems and other). For a complete list of plugins please go to: http://www.smseagle.eu/plugins.php

Connecting directly to SMSEagle database

SMSeagle's database operates on PostgreSQL database engine. It is possible to connect to the database from external application using the following credentials:

POSTGRESQL DATABASE CREDENTIALS

Host: IP address of your SMSEagle

Database name: smseagle

User: postgres

Password: postgreeagle

SNMP agent

"Simple Network Management Protocol (SNMP) is an Internet-standard protocol for managing devices on IP networks. It is used mostly in network management systems to monitor network-attached devices for conditions that warrant administrative attention" (source: Wikipedia).

SMSeagle device has a built-in Net-SNMP agent. The SNMP agent provides access to Linux Host MIB tree of the device, and additionally (using extension NET-SNMP-EXTEND-MIB) allows access to custom metrics specific to SMSEagle.

Available SNMP metrics that describe a state of a SMSEagle device are:

Metric name	Description
GSM_Signal	Returns GSM signal strength in percent. Value range: 0-100. If modem is disconnected from GSM network GSM_Signal returns 0.
FolderOutbox_Total	Returns number of SMS messages in Outbox folder (outgoing queue length)
FolderInbox_Total	Returns number of SMS messages in Inbox folder

FolderSent_Last24H	Returns number of SMS messages sent from the device within last 24 hours
FolderSent_Last1M	Returns number of SMS messages sent from the device within last month
FolderSent_Last24HSendErr	Returns number of SMS messages sent with error within last 24h. Error occurs when GSM modem cannot send SMS message or message is rejected by GSM carrier (mostly happens when a credit on pre-paid SIM card is over)

RESULT VALUES

Result values for each custom metric are located in OID tree under: NET-SNMP-EXTEND-MIB::nsExtendOutputFull."[METRIC NAME]"

For example:
*Result value for parameter **GSM_Signal**:*
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_Signal"

*Result value for parameter **FolderSent_Last1M**:*
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderSent_Last1M"

READING RESULT VALUES

In order to test-read the parameter values from SNMP agent you can use any tools available for SNMP protocol (for example: NET-SNMP library for Linux or iReasoning MiB-Browser for Windows).

If your chosen SNMP tool cannot access NET-SNMP-EXTEND-MIB objects, you can download MIB definitions from: http://www.smseagle.eu/download/NET-SNMP-EXTEND-MIB.txt

EXAMPLE OF READING GSM_SIGNAL VALUE USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpget -v 2c -c public ip-of-smseagle 'NET-SNMP-EXTEND-
MIB::nsExtendOutputFull."GSM_Signal"'
```

Result:

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_Signal" = STRING: 54
```

Comment: GSM Signal strength value is 54%

EXAMPLE OF READING FOLDEROUTBOX_TOTAL VALUE USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpget -v 2c -c public ip-of-smseagle 'NET-SNMP-EXTEND-
MIB::nsExtendOutputFull."FolderOutbox_Total"'
```

Result:

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderOutbox_Total" = STRING: 0
```

Comment: Number of SMS messages waiting in outbox queue is 0

EXAMPLE OF READING SYSTEMUPTIME FROM LINUX HOST USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpget -v 2c -c public ip-of-smseagle system.sysUpTime.0
```

Result:

```
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (216622) 0:36:06.22
```

Comment: Linux system is up for 36 hours, 6.22 minutes

EXAMPLE OF BROWSING SMSEAGLE EXTENSION PARAMETERS IN MIB TREE USING NET-SNMP LIBRARY

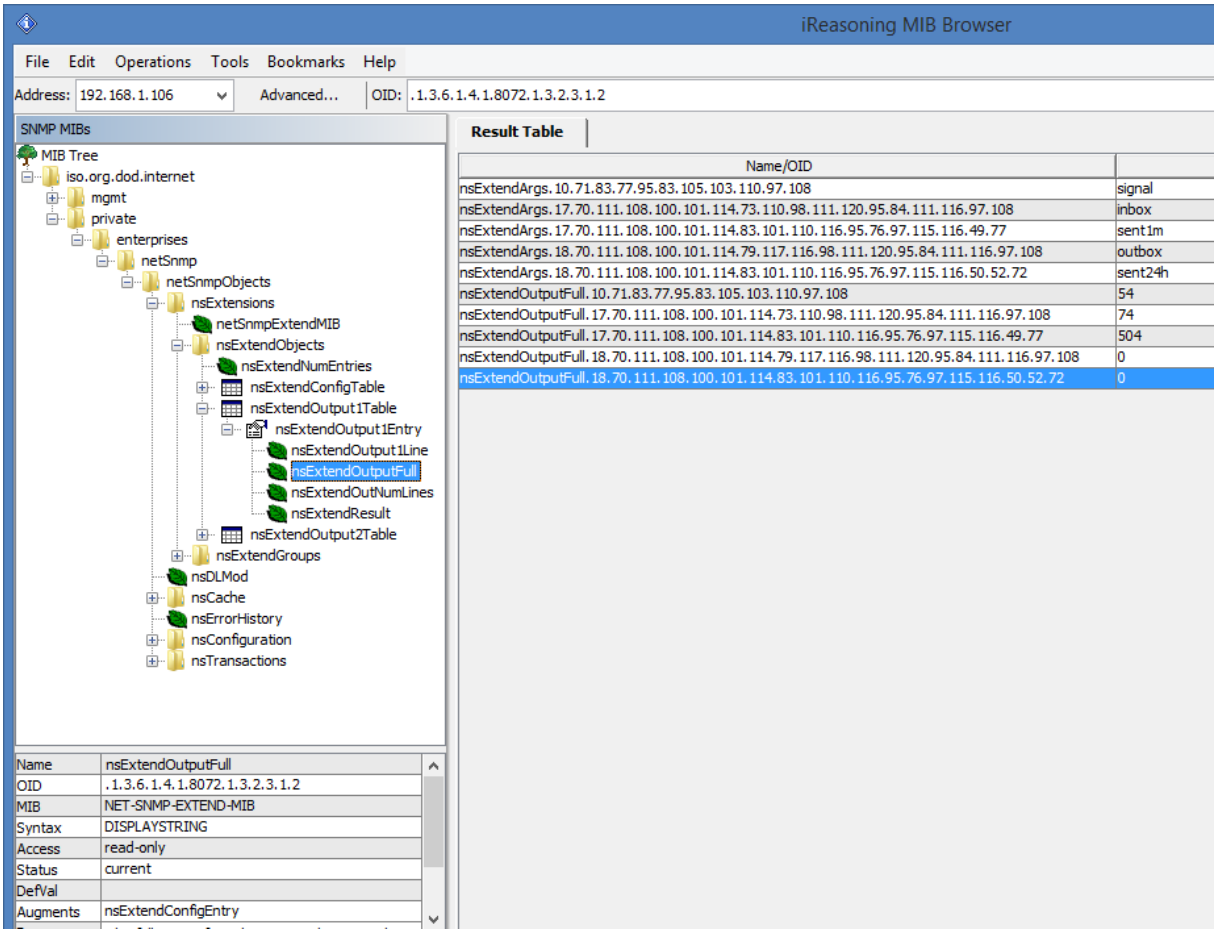
a) Command for reading the result value:

```
snmpwalk -v 2c -c public ip-of-smseagle .1.3.6.1.4.1.8072.1.3.2.3.1.2
```

Result:

NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_Signal" = STRING: 54
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderInbox_Total" = STRING: 15
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderSent_Last1M" = STRING: 19
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderOutbox_Total" = STRING: 0
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderSent_Last24H" = STRING: 0
NET-SNMP-EXTEND-MIB::nsExtendOutputFull." FolderSent_Last24HSendErr" = STRING: 0

EXAMPLE OF BROWSING SMSEAGLE EXTENSION PARAMETERS IN MIB TREE USING MIB-BROWSER



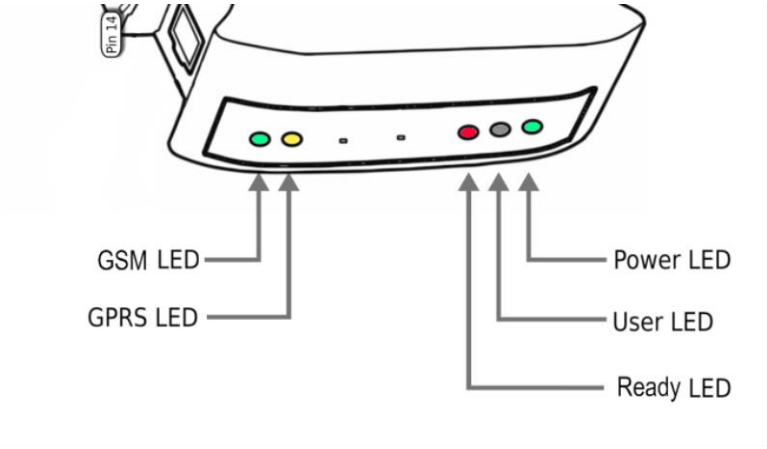
3. TROUBLESHOOTING

To make sure that the device is working properly, follow the three steps:

1. Verification of LEDs
2. Checking the device configuration (IP Settings)
3. Check the device logs (description below)

Verification of LEDs

Normal operation of the device is signaled by LEDs as follows:



LED	Correct operation
Power (PWR)	Continuously lit
User	Disabled
Ready (RDY)	Blinking
GSM	Slow flashing in stand-by mode, Quick flashing when modem in use
GPRS	Not used

Checking the device logs

SMSEagle operates on Linux system. Linux system log is available under menu position “Settings” > “Logs”. In case of any problems with the device this log is a valuable source of troubleshooting information.

Please attach information from this log when contacting with SMSEagle Support Team.

When the device is not reachable

1. Check if the device is correctly connected to the network. Check LED status of RJ45 socket.

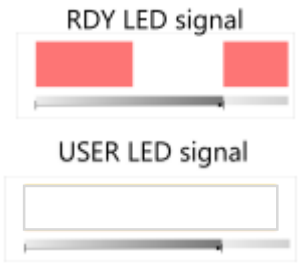
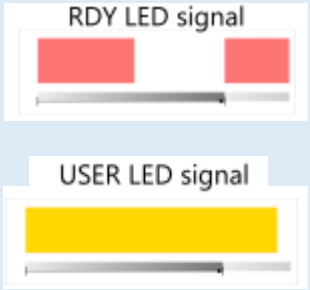
2. In the case when the device does not respond due to a malfunction or incorrect user settings please reboot the device by disconnecting and connecting power source (or pressing Reset switch).

3. If you still cannot connect with the device, it is possible to restore to factory IP settings by using the SW button.

Restoring factory defaults

This action restores the following settings to default values: **IP settings, web-interface admin password, time-zone on the device**.

In order to restore factory defaults proceed with the following steps:

LED signaling	USER actions	System reaction
	**When the device is ready to operate:** When READY LED is blinking and USER LED is disabled (do not proceed if you don't have that state!)	
	1. **Press and hold SW button for 10 seconds**	Restore service is counting down.
	2. **Release SW button after 10 seconds.** User LED will begin to blink.	System is reading factory defaults. Factory settings are being applied to the device.
	3. **Wait until system reboots.** Default IP settings are restored.	System is going for a reboot.

4. SERVICE AND REPAIR

Warranty

Your SMSEagle comes with 14 days of post-sales technical support (including assistance in integration with external software) and one year of hardware repair warranty coverage. For a detailed information on warranty terms and conditions check warranty card that comes with your device or follow the link: www.smseagle.eu/docs/general_warranty_terms_and_conditions.pdf

Service

Before contacting with support team, be sure that you have read Troubleshooting section of this manual. SMSEagle Support Team is available by email or telephone.

Support Email: support@smseagle.eu

Support telephone: + 48 796 200 723

The support service is provided by:
Proximus Software
ul. Wszystkich Swietych 5/3,
61-843 Poznan, Poland

WHEN CONTACTING SUPPORT TEAM, BE PREPARED TO PROVIDE THE FOLLOWING INFORMATION:

System Information

To get information about your SMSEagle, go to menu Settings > Maintenance. You will find there information about application and database version.

System Logs

Go to menu Settings > Logs. If possible copy the log data and provide to support team when requested.

MAC address

Each SMSEagle device has its unique MAC address. MAC address is printed on the device body.

5. TECH SPECS AND SAFETY INFORMATION

Technical Specifications

Hardware Specification

- Processor type: ARM9 32bit 200MIPS RISC
- Network interface: Ethernet 10/100 TX (1xRJ45)
- 1GB Flashdisk
- RTC Clock: RTC 240B SRAM, Watchdog timer
- Power consumption: max 17W
- Noise level: Fanless
- Dimensions: (width x depth x height) 35 x 120 x 101 mm
- Weight: 350g
- Casing: ABS, DIN rail installation
- Operating parameters:
    - Operating temperature: 10 ~ 60°C
    - Humidity: 5 ~ 95% RH (no condensation)
- Modem GSM/GPRS:
    - Waveband: GSM/GPRS/EGPRS 900/1800/1900 MHz
    - Compatible with GSM phase 2/2+.
    - Class 4 (2W @ 900 MHz).
    - Class 1 (1W @1800/1900 MHz).
- SIM card standard: mini
- Antenna connector: SMA

Power Supply

AC line input

Voltage ranges: 100–240 V alternating current (AC)

Frequency: 50–60Hz single phase

GSM Antenna

Omnidirectional 3.5dBi antenna with magnetic foot

Cable length 1m

Sending/Receiving Throughput

- Incoming transmission rate: up to 30 SMS/min

- Outgoing transmission rate: up to 20 SMS/min
- API send SMS requests: 30 SMS/min (messages are queued for sending in a built-in database)

Software Platform

- Operating system: Linux 2.6
- built-in Apache2 web server
- built-in PostgreSQL database server
- built-in Postfix email server
- modern responsive web interface
- failover mechanisms for GSM modem

Important Safety Information

This chapter provides important information about safety procedures. For your safety and that of your equipment, follow these rules for handling your device.

WARNING: Incorrect storage or use of your device may void the manufacturer's warranty. Failure to follow these safety instructions could result in fire, electric shock, or other injury or damage.

Always take the following precautions.

Disconnect the power plug from AC power source or if any of the following conditions exist:

- the power cord or plug becomes frayed or otherwise damaged
- you spill something into the case
- the device is exposed to rain or any other excess moisture
- the device has been dropped or the case has been otherwise damaged